# Record Group 104. Entry 28.

## Assay of Ingots Copper and Nickel

Digitized September 14, 2023, Philadelphia, Pennsylvania.
Box 2, Book 18, for 1856.

Note: Lightly printed and written text may be difficult to read in scanned version. Hidden words might be visible on the original pages. Larger (18+ inch) documents are scanned in multiple parts. Correspondence organization is presented as stored and is not always in chronological order.

# RG 104 RECORDS OF THE BUREAU OF THE MINT

Records of the U.S. Mint at Philadelphia
Operating Records
Records of the Assays

## ASSAY WORKBOOKS, 1795-1905

Box 02 NC-152 Entry 28

2
80523392

Memorandums for
Cent Alloy

Cent Ingots Copper & Nickel
Amt weighed for Copper 5 grammes
for Nickel 2 Grammes

| Melts | | | per ct |
|---|---|---|---|
| 1-7 | for copper | | 87-4<br>84.4 |
| 8-11 | " | | 87.0 |
| 12-19 | " | | 87.6 |
| 20-25 | " | | 88.4 |
| 1-7 | for nickel | 363<br>15 | 13.7 |
| 8-11 | | 344<br>15 | 12.9 |
| 12-19 | | 352<br>9 | 13.5 |
| 20-25 | | 362<br>9 | 13.9 |
| 26-31 | for copper | 4351-4397 | 87.0. 87.9 |
| 32-37 | [illegible] | 4500 | 90. |
| 38-41 | | 4313 | 86½ |
| 42-47 | | 4420 | 88.4 |
| 26-31 | for nickel | 431-377<br>12 23 | 13.9 |
| 32-37 | | 407. 384<br>12 | 13.4 |
| 38-41 | | 412<br>16 | R.A. 13.7 |
| 42-47 | | 415 | 13.8 |

for Nickel from 38-59 941 on

5 grm 14.8 per ct

The nickel from 26 to 47 was

redissolved & precipitated

1433 oxide on 8 grs 14 per

for Nickel 48-59 668 oxide

on 4 grs 13 per ct

| | | | |
|---|---|---|---|
| 48.53 for copper | 1016 + 741 | | R A |
| 54.59 | 4354½ | 4326 | 87 — 86½ |
| 48-53 R A | 4302 | | 86 — |
| 60.65 | 4376 | | 87.5 |
| The same for Ni | 367 | | 13.9 |
| 66 — 74 copper | 4260 | | 85 — |
| " " | 4233 | | 84.6 |
| 75 — 79 " | 4274 | | 85.5 |
| 66 — 79 Nickel | 712 | | 14.0 |

Combined Assay for copper 4286

from No 1 to 65 on 5 grs

Combined assay for nickel
from No 1 to 65 on 5 Gr } 817 12 12.6

80-87 for copper 4361 87.2

for nickel 389 13 14.8

88-92 for Cop 4356 87.1

" Nickel 370 10 14

66-79 for copper

93-100 Copper 86

Nickel 380 10 oxid 14.9

No. 1-8 771 Sul 2200
9-19 763 2170 } 1026 oxid of Ni 13.45
20-25 826

26-46 750, 4250 85.
738 4262 85.2
734 4266 85.3

1-65 Ni. 500 93 14.6

26-46 Nickel 6 1056 oxide 13.8

47- 73 A 847 - 4153 83,06 86.16

4 lots B 793 4207 84,14 87 24

C 750 4250 85.00 88-10

D 866 4134 82,68 85.78

Proof 155 4845 9690

Do Repeated 698 4302 86. 87½

Proof 75

147-173 Nickel 392 382 750

$\underline{\ \ 10\ \ }$

Redissolving the oxide 327 128

174-205 Copper 78.44 Corrected 87.88
1678

B 79.44 88.88

C 78.86 88.30

D 76.76 87.20

Proof 90-40

the above was melted with crude Carbonate of soda the loss was owing to a portion of ~~the~~ copper being converted into a sulphuret which was detached from the button by striking it with a hammer

174.205 Nickel two results

| | | | | | |
|---|---|---|---|---|---|
| | | | | | 12.2 |
| * | R ~~Assaying~~ - | | | | 16.3 |
| 206-246 | Cop A | 710 | 4290 | 85.80 | 87.7 |
| | B | 686 | 4314 | 86.28 | 88.2 |
| | C | 727 | 4273 | 85.46 | 87.3 |
| | D | 904 | 4296 | 85.92 | 87.8 |
| | Pl | 95 | 4905 | 98.10 | |
| 206-246 | Nickel | 361 - <br> 65 | 2960a | | 11.65 |
| | " | | | | |
| *174 205 | Wt | 3325 - | 590 - 5200a <br> 70 | | 12.26 |
| 247-302 | A | 735 | 4265 | 85.30 | 87 - |
| | B | 690 | 4310 | 86.20 | 87.9 |
| | C | 722 | 4278 | 85.56 | 87.25 |
| | D | 695 | 4305 | 86.10 | 87.8 |
| | Pr | 86 | 4914 | 98.28 | |
| 247.302 | Ni Wt | .3100 | 516 <br> 70 | | 12.3 |

4000 [illegible]

303-334 Copper

681 4319 86.38 88 1

707 4293 85.86 87.6

715 4285 85.70 87 4

689 4311 86.22 87 9

pr 86 4914 98,28

3600m Ni 627/0 12 p c

on 5 Grms 8oo/70 115

another result gave 11-

this was not satisfactory

as the sulphide of copper

began to decompose before it was

sufficiently washed it was on 4 Gr

335,374 Cop. 652 — 4348 8696 90

n° 4 couls fell 766 42,34 84,68 87.7

in the crucible 715 42,85 85,70 88.7

which rendered 725 42.75 85,50 88.5

more of the oxide 148 48.52 97.64

than usual

the loss on proof more than usual

they were melted without borax except No 4

335-374 1st 2gr 325/70 10 pr

2100 2d 416/70 – 145 129

3100 3d 533/70 1133

3100 515/70 1125

375-408 Ni 4 Gr 715/90 1267

do 3400 500/70 10 –

375-408 Cop 4260 85,20 56.72

4294 85.88 5760

4287 85.74 8726

4200 84.00 85,52

4924 98.48

No. 4 was melted without Charcoal the oxide was taken up by the borax

409-440 Nickel 638/70 11

" 11 –

409 440 Cop 4335 8670 88.16

" 4330 8660 88.06

Pr " 4927 9854

"

Pr 4870 9780

441-480 Cop 4240 8480 87.40

4270 8540 88.00

Ni 632 11

70

7th May 14th 16 Boxes 80 Ingots for assay

Cop 4265 8530 87.76

4208 8416 86.68

4260 8520 85.66

4307 8614 88.60

Pr 123lbs 4877 9754

246

76

16 boxes Nickel 683 after washing 692

12.23

2a Nickel P 692

70

May 15 481 to 521 Bost Iron

* Cop 4450 89.00 92.80

" 4280 85.60 89.40

Pr 4810 96.20

the nickel was 745

dissolving again - 80 silica

oxide of Nickel 665 13

The report was based on the Nickel return

16 boxes 48 Ingots for assay

Cop 4334 86,68 89.74

" 4265 85,30 88.36

" 4330 86,60 89.66

Pr 4847 96.94

Nickel 662 80 silica 11.4

R.A 2066 Copper

302 Nickel 663 11.8

62 Si

* was reassayed and fell short 10 per ct I am unable

over leaf

to account for the great
deviation or want of conformity
between the two assays, the
first showing about 5 per ct.
too much weight, the second 6 pr ct
too little. I know not how an
excess could occur unless the
original weight was too great
or if possible the precipitation
continued too long the Nickel
could be thrown down, the second
only could occur by being
deficient in the original wt.
or that it could be lost from
the filter which seems almost
impossible as 6 per ct makes
considerable bulk in a loose
precipitate

from No 1 to 100 652
60
592
140
11-64

101-205 = 3757 543
70
473 - 150 11-8

206-305 3600 610
70
540 - 150 11-8

306-440 670
70
600 11-8

441-557 672
4200 70
602 143.3 11¼
143.3

558-601 660
60
600 150 11-8

602-647 645
60
585 11,5

642-677 — 675
70
605 157 11.9

678-707 — 660
70
590 147.5 11.6

708-735 — 668
70
598 11.7

736-779 656
60
596 149 11.7

780-831 665
60
605 151 12.9

Kensington No. 665
60
605
151 12-9

No 2 673
70
603
150-7 11-8

No 3 656
60
596
149 11-7

No 4 670
60
610 12—

No 5 665
70
595
148 11-7

No 6 671
70
601
150 11-8

Nº 7 667
70
597
149- 11-7

8 668
70
598
149- 11-7

Reassay

Fan No 1

b 100 Cof 4279 8558 88.18

pt = 26.

622 — 638

25 small filter

after washing 617 —

Kensington 605 —

from 206

305 652 — 663 silver 62

Copper

Assay of No 7 b 100 for Ni

370 65 — 17½ 3325

174-205 the nickel reconnaissance

the siliceous matter collected

weighed 65 the first time

it showed a trace of copper and about

one per ct of iron

tried for silica after dissolving

& washing gave 70

returned to acid & washed 60

another result gave 58

another " " 72

one stick of potash gave

30 th equal to 60 for deter

~~again~~ another gave 18 which

would be but 36 fuller 46

another result for silica gave

92

392
10
382
55
327
163
987
1141
1304
1141
128281

392
10
382
191
987
1337
1528
1337
15,0317

70
15
55

6

|  |  |  |  |  |
|---|---|---|---|---|
| Dr | 155 | 4845 | 96,90 | loss 3 per ct |
| A | 847 | 4153 | 83,06 | 86.16 |
| B | 793 | 4207 | 84,14 | 87.24 |
| C | 750 | 4250 | 85,00 | 88.10 |
| D | 866 | 4134 | 82,68 | 85.78 |

Cianide of potassium

Nickel 15,0

Nickel 12,83 after redissolving

in the oxide it showed a little

iron the powder collected on the filter was silica + alumina

D. Mason 698 4302 86.04 87½

Proof 75 4925 98.50 86
blown [illegible]